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ABSTRACT

Designed to update "The Institute Bibliography 1990" and its 1991 supplement, this bibliography includes all items submitted by members of the Institute of Educational Technology (IET) that are relevant to the area of educational technology. Although this is an update to the 1990 edition, it contains some new entries from 1989 onwards. It is divided into the following sections: (1) published work; (2) internal papers, memoranda, and reports; (3) lectures delivered outside the university; and (4) reports to external bodies. Within each of these sections annotated entries are listed alphabetically by author (co-authored papers are listed under the first author), and an institute bibliography (ib) number has been assigned to each entry. Three indexes to the bibliography are also provided. The first is an index by the unique ib number which identifies each item; the second is the author index, with all authors (including co-authors) listed alphabetically; and the third is the subject index. A description of IET's Open and Distance Learning Program for 1992 concludes the publication. (MAB)

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The Institute Bibliography

Published and unpublished work by members of the Institute of Educational Technology

1992 SUPPLEMENT

Edited by Don J Whitehead

Institute of Educational Technology • The Open University • Milton Keynes MK7 6AA

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SUPPLEMENT TO THE INSTITUTE BIBLIOGRAPHY 1992

Edited by Don J. Whitehead

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Introduction

Welcome to the *Institute Bibliography 1992 Supplement* which is designed to update the *Institute Bibliography 1990* [and the *Institute Bibliography 1991 Supplement*] The purpose of this annual supplement is to eliminate the overlap which occurred when an annually published bibliography covered the preceding three years. We hope that the new arrangement of two annual supplements [1991-1992] followed by a full bibliography in 1993 will prove more flexible in use

Although this is an annual update of the 1990 edition, there are included in it a number of items from 1989 onwards. These are new entries, which were submitted to late to appear in any previous bibliography. Inevitably our reliance on colleagues volunteering entries will result in some items slipping through the net in the year in which they first appeared.

We hope that the Bibliography continues to be useful to IET, the Open University, and the wider educational technology community, and will be valued by those who though not educational technologists are in some way engaged in the production of materials for the independent or distant learner in education or training. The unrivalled experience of IET in this field makes this bibliography an essential source of reference for those engaged in the production of such learning materials. The contents include all items submitted by members of IET which are relevant to the area of educational technology, broadly interpreted.

Structure of this bibliography supplement

This supplement follows the pattern which has now been established for over a decade, there are four sections, each beginning with a full explanation of how the entries have been arranged. Within each section entries are listed alphabetically by author (co-authored papers are listed under the first author). For those readers who wish to examine several papers on the same subject, a subject matter index is provided, along with an index of authors.

Obtaining copies of entries

Open University readers wishing to obtain copies of the items cited should contact the author(s) direct at the Institute. Other readers should contact me, Don Whitehead (see below). The first line of each entry provides all information needed to identify individual items, and it will be of considerable assistance if this quoted in any correspondence. The example below shows how this is structured

Morgan A 1990 SRC 35 ib 2523

Author and date are self evident, the two following numbers ib 2523 identifies the item in the IET Information Bank, and SRC 35 identifies it as number 35 in the series produced by the Student Research Centre. (There is an complete listing of IET Series List available price £7. This includes both current and completed series.)

All readers making a general enquiry, rather than a request for specific items, should define as clearly as possible their area of interest. There is normally a charge for papers supplied outside the Open University. The cost, including postage, of any given selection can be quoted.

Course and Workshops

See Pages 37-38 for details of the 1992 courses and workshops run by The Institute of Educational Technology Programme for Professional Development in Educational Technology for Open and Distance Learning. The workshop programmes is run on an annual basis, and provisional dates for 1993 can be supplied on request.

General queries regarding the Bibliography, or its contents should be addressd to me as below:

Acknowledgements

Finally I would like to thank my colleagues for providing entries for this edition, and their secretaries for their assistance in passing electronic copy over for inclusion, and in generally helping me locate items, and reminding colleagues of deadlines etc.. In particular I am indebted David Perry for his advice and assistance in the use of computing facilities. and Michael Macdonald-Ross for his invaluable advivice ontypography and layout. Responsibility for errors and omissions remains with me.

Don J. Whitehead

January 1992

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Section A
Published work

If a work has been lodged with the British Library there is absolutely no doubt that it has been published. However, there are many works which receive wide circulation, and which may even be properly printed, without being sent to the British Library, and this is increasingly so, as the use of computers, laser printers, and other "Desktop Publishing" equipment finds its way in an ever wider classes of users. In this section I have interpreted 'published' in the wider sense of the word. The majority of items can be found in academic libraries or can be obtained from the publishers, although a few items may not be easily accessible. Alternatively, the authors will usually supply copies on request, except in the case of books, which should be obtained via the normal commercial or library channels.

The entries are arranged alphabetically by author; each author's entries have been ordered chronologically as far as possible. Where more than one person has contributed to the work, it will be found under the first author's name only but the co-authors are named in the entry. Co-authored papers follow those by a single author.

Journals are sometimes abbreviated in the entries, the following list gives the titles in full:

British Journal of Educational Technology	B.J.E.T.
Educational Technology Systems	E.T. Systems
Educational Technology and Training International	E.T.T.I.
Instructional Science	Inst. Science
International Journal of Computers in Adult Education and Training	I.J..Comp Adult Ed. & Trng
International Journal of Educational Development	Int. J. Ed.Dev..

Bates, Anthony [ed] 1990 ib 2589

Media and technology in European distance education.
Milton Keynes: Open University-[EADTU]

This book with its 43 articles from 38 authors covers almost all European distance teaching universities, provides a comprehensive overview of the use of media technology in West European distance education. The emphasis is on practice, rather than theory. The book provides a useful guide to what has been done where, and some of the advantages and pitfalls of using media and technology.

Bates, Anthony 1991 ib 2814

The challenge of technology for European distance education
in Bates A. [ed] Media and technology in European distance education
Milton Keynes: Open University

A general discussion of the use of technology in the distance education context. The pros and cons, are discussed, and the limitations, as well as the advantages of each technology are noted.

Bates, Anthony 1991 ib 2815

JANUS: Joint Academic Network Using Satellites.
in Bates A. [ed] Media and technology in European distance education
Milton Keynes: Open University

This is a discussion of a planned network, using satellites, designed initially to link EADTU member institutions, although it is expected that the system will grow to encompass other organisations with an interest in open and distance learning. The author describes the proposed system and potential academic and administrative uses. to

Bates, Anthony 1991 ib 2816

Audio-cassettes in the British Open University.
in Bates A. [ed] Media and technology in European distance education
Milton Keynes: Open University

After print the most widely used technology in the OU/UK is audio-tape cassettes, around 750,000 hours of material is sent to students in this form every year. This major low cost innovation has been thoroughly evaluated, and the author summarises the experience of the OU in using this medium, and gives reasons for its popularity across all faculties, and with students and teachers.

Bates, Anthony 1991 ib 2817

The Future.
in Bates A. [ed] Media and technology in European distance education
Milton Keynes: Open University

In this chapter the author looks at the likely future development of technology use in European distance education. He draws on the material in the other chapters, discussions held at an EADTU workshop, and results of a post workshop questionnaire. He concludes that new is not always better, and that some investment by governments and institutions is needed if the benefits of new technologies, [including any cost savings] are to be realised in distance education.

Brna P., Brayshaw M., Bundy A., Elsom-Cook M., Fung, P. & Dodd, A 1991 ib 2799

An overview of Prolog debugging tools.
Inst. Science 20.

In this paper we present an overview of the advances in debugging standard Prolog programs. The analysis offered is in terms of a classification of tools that provide different degrees of activity in the debugging process. Other possible dimensions of analysis are also outlined.[pp 193-214]

Burt, Gordon 1989 ib 2598

Social forces and school computing;
B.J.E.T., 20, 2,

This paper identifies how dominant interests in each sphere of society bear down on classroom computing. How this external pressure is complemented by the internal development of a computer education culture, and how these processes are occuring on a global scale.

Burt Gordon 1990 ib 2389

Ideology in management education at a distance
B.J.E.T. 21, 2.

Recent reports on the distance education provision of management education have been informed by functionalist ideology. yet increadingly in distance education research there are calls for a more critical approach. A critical analysis of management education texts suggests that suggests that the central education rationale is a functionalist one: "my function as a teacher is to help you perform your function in the system more rationally and efficiently". The internal and external relations of the manager's organisation tend to be viewed using the same ideology. Yet an analysis of the social context of organisations reveals a complexity of powers and interests. Of these the weaker interests in society are less clearly served by management education. This suggests a redirection in both management education and distance education research. Furthermore distance education institutions are cautioned against introducing manageralist approaches to their own affairs.

Burt Gordon 1991 ib 2454

Culture and Ideology in the Training literature
E.T.T.I. 28, 3.

Although it has been argued that education involves the promotion of various cultures and ideologies, to what extent is this also true training (as portrayed in the training literature)? Seven journal articles of training are analysed. The dominant ideology is one which justifies training in terms of national economic competition. This is related to the social location of the authors. Various alternative viewpoints are offered.

Butcher P., Laurillard D. & Williams K. 1991 ib 2586

Computer assisted learning: numeracy software from the Open University Technology Foundation course.
in Bates A. [ed] Media and technology in European distance education
Milton Keynes: Open University

This chapter describes the use of CAL packages on an Open University foundation course for technology. The material described is designed for the teaching of mathematics, in parallel with correspondence material. The software is described along with the pedagogic reasons for the use of IBM compatible PCs as essential teaching tools for technology students.

Byrne Colin 1990 ib 2742

Validity studies of teacher rating instruments: Design and Interpretation.
Research in Education.

The paper addresses the issue of how validity studies on teacher ratings scales and similar instruments could be better designed and their results better interpreted. The paper is written for the benefit of researchers, policy makers and practitioners.

Carter R. & Kirkup G. 1991 ib 2555

Redressing the balance: women into science and engineering
Open Learning, [Feb.]

This article discusses the work of the Open University 'WISE" [Women Into Science and Engineering] group since 1984. The authors note that although in 1988 women made up 46% of OU undergraduates, and 49% of new graduates, they were a very small minority of foundation course students in Maths [22%], Science [35%], and Technology, [26%]. These figures represent considerable improvement on those of 1984, and the authors discuss ways in which this improvement can be maintained and enhanced.

Chambers E.A. 1989 ib 2738

A102 An Arts Foundation Course: a first year of study for adults at the British Open University
Proceedings of the 3rd Int.Conference of the First Year Experience.
University of South Carolina/SRHE

The great challenge for distance educators at the Foundation level of an open-entry system is to provide students with sufficient support and guidance so that most of them successfully complete the course of study, while those who are able to excel. This must be achieved without any lowering of academic standards. Four main functions of Foundation courses are discussed, highlighting aspects of the educational theory that informed this course, its pedagogy, structure and methods of construction. The steps taken to produce a high quality course are described, and some evidence of its quality is presented.

Chambers E.A. 1990 ib 2715

Pedagogical Research at the UK OU
Proceedings of the Sandberg Seminar on the Pedagogy of Open Learning and Distance Education.
Jutland Open University Yearbook

This paper describes the organisation and types of pedagogical research undertaken in the UK OU and, through a case study of research into the Arts Foundation Course, shows how one type of research, a form of 'action-research', can contribute to course development. Some issues central to the organisation, conduct and purposes of pedagogical research in distance education are discussed.

Chambers E.A. 1992 ib 2845

Workload and the Quality of Student Learning
Studies in Higher Education [in press]

For many undergraduates, the amount of work they are asked or expected to do is among the most crucial factors affecting their engagement with a course of study. Yet student workload is a neglected issue, in research literature as in practice among teachers in higher education. In the context of increasing concern among educationists about the quality of students' learning, and some discussion of recent research findings, it is argued that 'reasonable workload' is a precondition of good studying and learning. Some of the ways in which workload can be measured are discussed and, in particular, the methodological difficulties involved in relying on students' perceptions of it. A more rigorous method of calculating student workload, in advance of course presentation, is outlined. Suggestions are offered about how student workload can be regulated and some implications of this for curriculum and course design, as well as for the quality of student learning, are presented.

Chambers E.A. 1992 ib 2846

Improving Foundation Level study at the Open University through evaluation of student experience
Proceedings of the CNAA Conference 'Academic Quality Assurance - Evaluating the Quality of the Student Experience'.
CNAA, London

In this paper the following issues are addressed: what data should be gathered about the student experience; what methods can be used to gather data and ensure its validity; how such data can be used as part of a quality assurance process. The discussion consists of: (a) decription of a system employed for gathering such data for the Open University Arts Foundation Course; (b) a description of the type of data collected, including reasons for collecting it and some analysis of the strengths and weaknesses of the methods used; (c) discussion of some ways in which the data can be used within a quality assurance process at course and institutional levels. How data are used, and indeed how an evaluation is conducted, is determined by the approach taken to quality assurance within an institution. Two different 'models' of quality assurance are descibed and some implications of each are discussed.

Chambers E.A. 1992 ib 2847

The Place of the UKOU in part-time Higher and Further Education in Britain: present and future
Proceedings of the DEUS Conference ' Distance and Flexible Learning',
Aarhus, Denmark

The paper begins with a discussion of the OU's place in national provision of part-time higher education and training, mainly at undergraduate level: also, its contribution to the country's recent efforts to provide training opportunities for adult citizens, in relation to national policy. The second part of the paper addresses the OU's developing role in the 1990s. The questions 'what will be the character and scope of further training and education in the 1990s, and why?' and 'how can further training and education be structured and organised?' are raised and discussed.

Chambers E.A, Hodgson B., Kirkwood A. & Morgan A. 1992 ib 2848

A Study of Formal Opportunities in Postgraduate Education for Hospital Doctors; Report of a study undertaken on behalf of the Joint Centre for Educational Research and Development in Medicine.
London: The Standing Committee on Postgraduate Medical Education [in press]

The report contains findings of a study on the take-up of formal educational opportunities by hospital doctors in the training grades. The researchers conducted group meetings, among junior doctors and consultants working in the fields of general medicine and surgery at four different hospitals, at which a 'nominal group process' methodology was used to arrive at a consensus of views regarding incentives and barriers to the uptake of training opportunities. The data are presented in table form, as force field analyses, and explained and discussed. Guidelines and recommendations for change are presented.

Durbridge, Nicola [Presenter] 1991 ib 2509

Audio Cassette 1, A317 Modern Art: Practices and Debates.
Milton Keynes: Open University

A one hour programme designed to introduce students to the concepts, methods and debates of Modern Art. The three authors of a book of published essays discuss their approaches and exemplify them in interview

Durbridge, Nicola 1991 ib 2746

Audio-Cassette and Radio in Distance Education"
in Rekkedal, T. et al [eds] Fjernundervisning - Laering uten grenser, Bekkestua,
Norway: N.K.I. Forlaget, 1341

The focus of this chapter is the potential of sound - whether broadcast as radio or recorded on audio cassette - for distance education. It outlines some of the constraints of using a broadcast medium but suggests nevertheless that radio has unique and valuable roles to play. The author provides some examples of these and goes on to compare the teaching/ learning potential of audio cassettes. There is a short section on costs.

Evertsz, Richard 1989 CITE 66 ib 2568

The generation of 'critical problems' by abstract interpretation of student models
Proceedings 11th Int. Joint Conference on Artificial Intelligence

As the range of models a tutoring system can capture is extended, efficient diagnosis becomes more difficult. The author has implemented a partial solution to this problem in the form of a "Critical Problem Generation". This paper points the need for such a diagnostic system for the effective development of machine tutoring, and describes a program PG, which provides the basis of a hypothesis testing capacity. (CITE 66 title is *Two papers on the abstract interpretation of production systems.*)

Farnes, Nicholas 1990 ib 2620

The place and influence of Community Education in peoples lives
Dept. of Social Policy,
Cranfield Institute of Technology

The research adopts a life course approach to explore the experience of students who took OU Community Education courses in Glasgow's areas of multiple deprivation during the 1980's economic recession. It examines who participates and who benefits, and considers the place and influence of the courses in students'

lives and in their communities. It recognises that students' personal characteristics and circumstances have been and are affected by local services and facilities and by wider socioeconomic events and changes, and explores what influence community education has in the context of such opportunities and constraints. A resource based model is proposed which attempts to explain why those with least resources have more changes in their lives and receive more help from the courses.

Fung, Patricia 1989 CITE Thesis 5 ib 2653

A formal semantics approach to user modelling: an investigation in the domain of Prolog
Milton Keynes: Open University [IET]

This thesis reports on research exploring the use of formal semantics for student modelling in intelligent tutoring systems. The problem is one of how to analyse students' errors at a level which allows diagnosis to be more flexible and meaningful than is possible with the 'mal-rules' and 'bug-catalogue' approach of existing systems. The ideas put forward by Robin Milner [1980] in his Calculus of Communicating Systems (CCS) form the basis of the formalism which is proposed as a solution to this problem. Based on the findings of an empirical investigation, a selection of Prolog programs was formally described in terms of CCS. These formal descriptions were used by a production rule system to generate a number of the incomplete or faulty models of Prolog execution. In a second empirical study, a machine-analysis tool, designed to be part of a diagnostic tutoring module, used these models to diagnose student s' misconceptions of Prolog control flow.

Fung, Patricia 1991 ib 2426

Formal Semantic Systems and Student Modelling
in Elsom-Cook, M.[ed] Guided discovery tutoring
London: Paul Chapman Publishing Ltd

A formalism is proposed which is capable of providing an accurate semantic description of a high-level programming language, PROLOG. This opens the possibility of interpreting student data at a level of abstraction which is otherwise hard to achieve. A description of this formalism is given and the limits within which it is currently being investigated is outlined. In conclusion a summary of the results of this initial exploration is presented and the implications of these results for future research are discussed

Fung, Patricia 1991 ib 2572

Do-It-Yourself Student Modelling.
in Bottino R. et al [eds] Proceedings of the 6th Int. PEG Conference
Rapallo, Italy

An objective of using AI systems is to provide more general architectures for educational systems to facilitate reusability of components. It is premature to attempt to construct completely 'generic' systems, since too little is known about the nature of teaching and learning. As an alternative strategy, the ITS builder can be provided with 'toolkits' embodying standard techniques in a general form which can be adapted to specific needs. This paper presents a range of tools which can be used to provide a student modelling resource for a range of ITS systems.

Fung P. & Elsom-Cook M. 1990 ib 2695

Student modelling kits.
Proceedings of the DELTA and Beyond Conference
The Hague

In current approaches to student modelling there is a small variety of student modelling methods available which have as a common feature that they view the learner as some variation of the expert. This view of the learner means that given a representation of the particular domain being considered, student modelling components can be generated in a relatively straightforward manner. This paper describes the way this has been done in a prototype student modelling toolkit, discusses the design of the toolkit and outline the application for which this toolkit was primarily developed.

Fung P., Brayshaw M., du Boulay B. & Elsom-Cook M. 1990 ib 2494

Towards a taxonomy of novices' misconceptions of the Prolog interpreter
Inst. Science 19, 4/5

A series of novice programmers misconceptions of Prolog flow-of-control and variable unification are identified on the basis of existing empirical evidence, and informal observation. This classification is intended to serve as a first pass attempt towards an understanding of these errors and as a basis for future empirical work.

Grant, J. & Marsden, P. 1991 ib 2807

Service based Learning : A Rationale Approach to SHO Training.
London: The Joint Centre, BPMF.

A report of in-depth studies of Medicine and Accident Emergency education in S.E. Thames R.H.A, and a feasibility study for a new system of SHO training based on experimental learning, resource-based learning, formal education and block release. [WBN 1 873207 301]

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Grant J. & Marsden P. 1991 ib 2808

Diagnostic Thinking Inventory
London: The Joint Centre, BPMF

An inventory of bi-polar items which test doctors' diagnostic skill in terms of two sub-scales: Structure of Memory and Flexibility of Thinking.
[ISBN 1 873207 35 2.]

Harry, Keith 1991 ib 2697

The collection and dissemination of information in distance education: the resources and role of the International Centre for Distance Learning;
in Bates, A. [ed] Media and Technology in European Distance Education;
Milton Keynes: Open University

This chapter sets out to describe briefly the current international climate regarding information work in distance education; then outline the resources and activities of the International Centre for Distance Learning [ICDL], which is located at the UK Open University campus at Milton Keynes. The Centre's links with international organisations are identified, and the its activities and databases on the literature, institutions and courses in distance education are described.

Hawkridge, David 1991 ib 2703

Creative gales and computers in Third World schools.
in Boyd-Barrett O. & Scanlon E. [eds] Computers and Learning,
London: Addison-Wesley

Are computers needed in developing countries, and, in particular, are computers needed in their schools? Both questions are important. Neither has a simple answer. Information technology is the latest 'creative gale of destruction' sweeping industrial countries, which are educating people to deal with and benefit from it. Developing countries cannot shelter from this gale.

Hawkridge, David 1991 ib 2704

Software for schools: some British reviews in the late eighties;
in Boyd-Barrett O. & Scanlon E. [eds] Computers and Learning,
London: Addison-Wesley

This paper looks at four broad categories of British reviews of software developed for use in British schools. These categories are labelled descriptions, analyses, critiques and evaluations. The paper characterises and gives examples of each, and notes that the majority of software reviewers do not go beyond description. There were no evaluations of software in the British educational literature of the late 1980s, so an example is provided from the US. The evaluation checklist prepared for the Microelectronics in Education Programme in 1985 was ahead of its time. Few reviewers came close to evaluating all the aspects it lists. There seems to be no substitute for trying out a program for oneself; the paper ends by listing sources of software reviews.

Hawkridge, David 1991 ib 2737

Machine-Mediated Learning in Third-World Schools?
Machine-mediated Learning, 3

Teachers and officials in several African, Asian and Arabic-speaking countries worked with British researchers during a 1988-89 international cooperative study funded by the Harold Macmillan Trust, describing and evaluating how computers arrived in their secondary schools and what the machines are used for. Data on national policy and practice came from China, Kenya, Jordan, Mauritius, Sri Lanka, Tunisia and Zimbabwe. This paper analyses the position facing Third-World governments seeking a strong rationale for computer education in schools. It reviews six rationales: the Social, Vocational, Pedagogical, Catalytic, Cost-Effectiveness and Information Technology Industry Rationales. It discusses ideological reasons for adopting the technology, the economic environment in which computers are being introduced into these schools and which rationales are likely to be sustained. Are dependency and inequity inevitable -- in computer education in schools -- for Third-World countries?

Hawkridge, David 1991 ib 2560

Challenging Educational Technology
E.T.T.J. 28, 2.

This paper is about the nature of educational technology in the 1980s and 1990s. It discusses four major challenges to the field in the late 1980s: the Theoretical Challenge from cognitive science, the Technological Challenge from information technology, the Political Challenge from the left, and the moral challenge from radical critics. The paper speculates briefly on how educational technologists should respond in the 1990s. Finally it contains reflections on the Utopian Educational Technologist as designer and dreamer.

Hawkridge D & Chen Chia-Erh 1991 ib 2558

Evaluating a World Bank project: China's Television Universities International
Int. J. Ed.Dev.11, 2

China recently invested about US$60 million from the World Bank, plus at least as much from its own resources, in expanding and modernising its television universities. How well are these unique institutions serving China's changing needs? Has the World Bank project, now ended, been a success? This paper is based on the evaluation report prepared by two panels, one Chinese, the other foreign, appointed to advise the State Education Commission. It reveals that the television universities have undertaken a very large construction programme: new and refurbished

buildings contain new foreign and Chinese-made equipment. It shows that they have succeeded in increasing the range of courses, enrolling millions of students and producing large numbers of graduates. It discusses the extent to which the teaching quality has been enhanced. It identifies causes of an apparent failure to improve management of the television universities' resources, particularly through providing computers, despite much staff training. Finally, it discusses briefly the future of the television universities in China.

Henderson, Euan S. 1990 ib 2809

Foundation for Managers
Nursing Times 86, 20 .

In the past, nurses have had few opportunities to obtain accredited management training. This article outlines the new foundation course in the NHS Training Authority's "NEWU Project", which will help to rectify this.

Henry, Jane 1991 TCC 22 ib 2707

The human side of project work
in Eastcoate, D. and Farmer, I. (eds)
Making learning systems work.
London: Kogan Page

This paper highlights the psychological and other needs that appear when students undertake projects. These appear to be related to the process of doing a project (choosing a topic, designing the study, gathering information, organizing it and writing it up) rather than the discipline, topic or type of project. Relatively simple and carefully timed support and scheduling eases these human problems and increases learning effectiveness. The paper concludes that it is possible to design effective projects for open learning situations with minimum face-to-face support.

Henry J. & Walker D. [eds] 1991 ib 2756

Managing Innovation
Sage: London

This book captures the current shift in management thinking and practice to a more organic, flexible, human appreciation of organizational process. focusing on the processes of innovation in organizations and how these can be encouraged and managed. The book offers a rich mix of reviews of key topics alongside numerous case studies. The authors explore the nature of strategic innovation and visionary leadership. They address the creation of environments in which innovation can flourish, and the issues involved in moving from creative idea to successful implementation. Detailed case studies show organizational innovation in action. The techniques and procedures described include scenario planning and visioning, idea offices and creative incrementalism. The book concludes with overviews of the critical success factors for meeting the continual challenge to innovate and change.

Holland, Simon 1989 CITE 88 ib 2658

Artificial Intelligence, Education and Music. The use of Artificial Intelligence to encourage and facilitate music composition by novices.
Milton Keynes: Open University [IET]

This paper describes how two recent cognitive theories of harmony can be used to design a new kind of direct manipulation tool for music known as "Harmony Space" with the expressivity to allow novices to sketch, analyse, modify and compose harmonic sequences simply and clearly by moving a two dimensional pattern on a computer screen linked to a synthesizer. The simple principles underlying the design are described. A prototype interface has been implemented, and tested on a small number of subjects, these tests and their implications are discussed.

John, Magnus 1991 ib 2574

UNESCO Seminar on distance education in Africa: Arusha, Tanzania 24-28 Sept 1990
Open Learning 6, 2

The author, [Information Manager of the International Centre for Distance Learning] reports on the above conference. He draws attention to the agreement to build on already existing "Centres of Excellence" in African distance education. The drive towards South-South cooperation in building up African distance education, and the agreed need for an African Centre For Distance Education, with a newsletter to disseminate information on a continent wide basis is reported.

John, Magnus 1991 ib 2594

Africa: A survey of distance education 1991
UNESCO: Paris [ICDL: Milton Keynes]

This booklet is a survey of the use of distance education on the African Continent. their is a list of international organisations, each listed with a short description of its aims. objectives, organisational setup, and address of the headquarters. There is then a list of thirty five countries, giving population, size and GDP. An overview of the use of distance education in the country, and short descriptions of the institutions providing distance learning facilities.

Jones A., Kirkup G., Kirkwood A. & Mason R. 1992 ib 2811

Providing home computing for distance learners: a strategy for home use
Computers and Education,

Major changes are occurring in British higher education which will continue over the next decade. These include widening access to higher education, for example among mature adults and people from other European countries; developing distance and open learning for use in parallel with face-to-face teaching and the expansion of CAL to support various forms of

pedagogy. These trends may conflict. Expanding the pedagogic uses of information technology, for example, unless designed very carefully, may create new barriers to access for some potential students. Educational policy makers, course designers and teachers must address such potential conflicts. This paper draws on recent experience at the Open University (OU) of expanding the use of home-based computers for distance education students. In 1988 the OU implemented a policy in which students on specified courses were required to provide extensive access to personal computers in order to study their course material. By 1990 over 13,500 students were doing this. The experience of these students has been monitored and evaluated and lessons from it indicate some of the major issues such a strategy would involve for any institution considering similar developments.

Kaye, Anthony 1988 ib 2422

Distance Education: the state of the art
Prospects 18, 1.

This article gives a brief review of the history and present state of distance education world wide, including the extensive use of correspondence and television based courses in the USSR and China. There is the a brief discussion of possible future developments making use of the potential of computer based systems.

Kaye, Anthony 1991 ib 2712

Building the foundations for an electronic campus;
in Bates A. [ed] Media and Technology in European Distance Education;
Milton Keynes: Open University

The increased access to micro-computers, modems and electronic networking facilities. This has led to a number of projects, some already operational, others in various stages of development. This chapter concentrates one such project; operational since 1988. The use of the CoSY network on the Open University Course DT200 An Introduction to Information Technology. The working of the system is discussed.

Kirkup G. & von Prummer C. 1990 ib 2556

Support and connectedness: The needs of women distance education students.
Journal of Distance Education, Autumn

Joint survey research undertaken at the FernUniversitat in West Germany and Open University UK, suggests that men and women have different needs with respect to local support provided during their distance study. Women are more regular attenders at face to face tutorials, and value local provision, especially the chance to interact with other students more than men. The authors relate this to models of intellectual development of women, and argue the importance of providing distance education suitable to women's needs

Kirkwood, Adrian 1989 ib 2664

Evaluating a major innovation in distance education;
Research in Distance Education, 1, 2.

This article briefly describes the origin, scope and nature of the UK Open University's Home Computing Policy (introduced in 1988), which made students on certain courses responsible for arranging their own access to a microcomputer of a suitable specification for study purposes. An evaluation programme of linked projects was established to provide information about a range of practical, procedural and educational issues. Some of the key concerns and issues are introduced and the research methods described.

Kirkwood A. & Kirkup G. 1991 ib 2564

Access to Computing for Home-Based Students.
Studies in Higher Education 16, 2.

A home computing policy [HCP] was introduced by the Open University in 1988. Students registered to study specific courses are responsible for arranging their access to a suitable microcomputer [IBM compatible] as an essential part of their studies. Over 4000 students enrolled on three specified courses in 1988, and over 11000 on five specified courses in 1989. This is then the largest educational initiative in Europe involving home computers! On the basis of two years of evaluation studies this paper discusses the impact of this on various groups of O.U. students and staff. In particular it looks at the effect of the HCP on access by students to the over-all teaching system. Finding that differences of income, gender, and geographical location were magnified by the HCP.

Mason, Robin 1990 ib 2610

Refining the use of Computer Conferencing in Distance Education
Proceedings of ICDE conference,
Caracas, Venezuela.

This article gives a summary of the ways in which the Open University has refined its use of computer conferencing for mass distance education over three years of practice.

Mason, Robin 1991 ib 2603

Methodologies for Evaluating Applications of Computer Conferencing.
in Kaye A.R. [ed] Collaborative Learning through Computer Conferencing: The Najaden Papers (in press working title)
Berlin: Springer-Verlag

The use of computer conferencing in education has grown in the last few years to such an extent that there is a real need to devise evaluation methodologies to assess the value of this new teaching medium. This chapter, therefore, examines existing approaches to evaluation, draws out the relevant strategies and proposes techniques unique to the nature of computer conferencing.

Mason, Robin 1991 ib 2604

Computer Conferencing and
Distance Education.
in Bates A. [ed] Media and Technology in European Distance Education
Milton Keynes: Open University

This chapter gives a short outline of how computer conferencing can be used in distance education. It includes the benefits of the medium - interactivity, peer support, development of reflective writing skills, as well as the difficulties - equipment, support and integration with other media.

Mason, Robin 1991 ib 2605

Refining the Use of Computer
Conferencing in Distance Education.
in Boyd-Barrett O. & Scanlon E. [eds] Computers and Learning
Wokingham: Addison Wesley

This article assesses the use of computer conferencing as a medium for offering tutorial support to students studying at a distance.

Mason, Robin 1991 ib 2607

Analysing Computer
Conferencing Interactions.
I J..Comp Adult Ed. & Trng 2

This article focuses on the nature of conferencing interactions to determine their educational value. By analysing messages from a particular conference of the Open University's Information Technology course, a typology of conference interactions is derived.

Mason, Robin. 1991 ib 2609

Computer Conferencing for
Open and Flexible Learning
Proceedings of the European Multimedia Conference; April.
Aarhus, Denmark.

Open and flexible learning programmes can use computer conferencing to deliver up-to-date subject matter, to set up discussions on course issues and to encourage cooperative projects amongst students. The ways in which computer conferencing can be used for exchange of information, ideas and expertise amongst participants are emphasised in the paper. Examples are given of computer conferencing applications in managements studies, in agricultural studies for remote farmers, in high technology subjects and in professional updating courses. An outline of the elements of 'best practice' derived from successful and unsuccessful uses of the medium, is also given.

Mason, Robin 1992 ib 2606

Computer Conferencing for Managers.
Interactive Learning International 8.

This article describes the Open University's School of Management plans to use computer conferencing on its MBA programme. By analysing conference extracts from a management course given online by the Western Behavioural Sciences Institute, the value of electronic interaction for managers is shown.

Morgan Alistair 1991 SRC 35 ib 2523

Whatever Happened to the Silent Scientific Revolution? -- Research, Theory and Practice in Distance Education;
in Evans, T.D. [ed] Research in distance education
Geelong, Australia: Deakin University Press

The point of departure of this paper is the title of a recent book edited by David Fetterman "Qualitative approaches to educational evaluation --the silent scientific revolution". The author examines how the idea of a "silent revolution" relates to his own work as an educational evaluator in the Open University, and to the wider international field of distance education. His conclusion is that the "silent revolution" has yet to happen in the distance education field, however there are new ideas and initiatives emerging that move further on towards a new educational technology.

Petre, Marian 1991 CITE 114 ib 2580

Expert programmers and
programming languages.
in Hoc J.M., et al [eds] Psychology of Programming
London: Academic Press

This chapter contrasts cursorily the aspirations of general-purpose programming language designers with evidence about expert problem solving and programming behaviour. The contrast is summarised in a rough wish-list of what experts want from general-purpose programming languages. The programmers' wish-list differs from the aspirations of language designers less in detail than in emphasis: whereas the designers emphasise well-found-edness and correctness, the expert programmers emphasise utility, control, and efficiency.

Petre, Marian 1991 ib 2578

What experts want from
programming languages
Ergonomics
(Special issue on Cognitive Ergonomics).

This paper contrasts aspirations of general-purpose programming language designers with evidence about expert problem solving and programming behaviour. The contrast is summarised in a rough wish-list of what experts want from general-purpose programming languages. The wish-list differs from the aspirations of language designers less in detail than in emphasis: whereas the designers emphasise well-foundedness and correctness, the expert programmers emphasise utility, control, and efficiency. It is argued that a programming language is a tool, not a panacea; tools make easy the tasks for which they are designed, but the outcome depends on the intention and expertise of the wielder.

Petre M & Green T. 1991 ib 2579

Requirements of graphical notations for professional users: electronics CAD systems as a case study.
Le Travail Humain.[in press]

This study explores some of the cognitive issues of graphical representation: reports claims made by professional electronics designers about the notation of electronics and the computer-based design support systems they use. The study offered two important insights: the need to 'escape from formalism', and the omnipresent use of secondary notation as an adjunct to 'official' notation.

Petre M & Green T. 1990 CITE 113 ib 2583

Is graphical notation really superior to text, or just different? Some claims by logic designers about graphics in notation.
in ECCE-5
Urbino: Italy, Sept.

Some writers on visual programming assume that graphical representations are self-evidently superior to text in all conditions and for all purposes. We doubt that. This paper asserts that graphics and text each have their places, and that the determining factor is the user's task. Evidence is provided from studies of expert electronics designers, and the paper considers in detail some of the claims they make about graphical notation as embodied in electronics schematics and computer-assisted design systems for electronics. Where possible, relevant psychological considerations are brought to bear on those claims.

Petre M. & Winder R. 1988 ib 2581

Issues governing the suitability of programming languages for programming tasks;
in People and Computers IV.
Cambridge: Cambridge University Press.

This research was intended to uncover principal issues governing the suitability of general purpose programming languages for expressing different types of solutions and to observe factors which obstructed or inhibited coding. Experts were required to program solutions to a variety of problems in several languages. In general, experts devised solutions in terms, not of a particular programming language, but of a pseudo-language which was a patchwork of different notations and approaches, implying that they found different languages appropriate for different aspects of solution, and that they used a personal computational model which was an amalgam of all their computational knowledge. Also in: ECCE-4 (Proceedings of the Fourth European Conference on Cognitive Ergonomics, Cambridge, Sept 1988).

Petre M. & Winder R. 1990 ib 2577

On languages, models and programming styles
The Computer Journal, 33, 2.

In this paper, the authors attempt to clarify both the terminology used to classify programming languages and the nature of the classification itself. They feel that the current terminology and classification as captured in the literature is out of balance with the way that subject programming languages are used. They consider the accessibility of the computational model and the importance of the implementation language and suggest that a re-appraisal in this context will produce a better characterization of both the programming language styles and their labels.

Ross S. & Scanlon E. 1991 ib 2575

Physicists all: are Open University graduates different?
Open Learning 6, 2

The authors describe the results of their research into Open University [UK] students taking physics and physics related courses. they enquired into attitudes to a number of topics including student intention, job change, and further study, and were able to make some comparisons with conventional undergraduates in similar fields of study.

Rowntree, Derek 1990 ib 2591

Teaching through Self-instruction
London: Kogan Page

The revised edition of a book first published in 1986. It is a comprehensive guide to the development of Open Learning materials.

Rowntree, Derek 1990 ib 2592

Developing an Open Learning Package,
Milton Keynes: Open University [for Employment Department]

This pack is part of a series produced by various suppliers on behalf of the Employment Department. It consists of a workbook, a reference text and an audio tape and it takes users through the key phases of planning and developing an open learning package of their own.

Rowntree, Derek 1991 ib 2593

Teach yourself with Open Learning,
London: Sphere Books

A Guide for potential and existing open learners to help them decide what (if anything) Open Learning might have to offer them and how best to make the most of materials and support systems and get value for money.

Taylor J., O'Shea T., Scanlon E., O'Malley C. & Smith R. 1991 PLUM 07 ib 2550

Discourse and Harmony: Preliminary findings in a case-study of multimedia collaborative problem solving Educational Technology Systems

Milton Keynes: Open University

At the Open University IET we are concerned to understand how to design effective computer-based support for collaborative learning where people are located at different physical sites and connected via various forms of technology. A collaborative project with Rank Xerox EuroPARC provided us with an opportunity to collect data on pairs of subjects working together on a physics problem using a distributed multi-media problem solving environment. Users communicated via screen-sharing and a camera-monitor device called a "video tunnel". This paper describes a methodology for analysing complex problem solving interaction between subjects, and provides preliminary evidence to support the essential role of visibility of one's partner through a video link for successful co-operative work to take place.

Waller, Robert 1991 CITE 97 ib 2682

Typography and Discourse.
in Handbook of Reading Research vol 2
New York: Longmans

This chapter gives a run down of typographic information for the non specialist, especially those coming to the problems of font choice and page layout via computers ands laser printers. The author notes the spreading recognition of the importance of page design to effective communication, and the need for a literature to help those new to the field, whose primary interest is content rather than form, and discusses and illustrates some of the basic ideas in non specialist language.

Whitelock, Denise 1990 ib 2735

How well does a causal model of common sense reasoning represent the structure of children's understanding about motion?
Proceedings of the British Educational Research Association
Roehampton

A model, based on the analysis of causation, which describes "everyday" thinking about dynamics is discussed. The formalism chosen to present the causal model was that of a systemic network, since it could display a structure of categories revealing their interdependence to any required level of delicacy. The systemic network also produced a definable degree of difference between motions which could then be tested. The results of the testing suggest that responses can be predicted by the model but there is an improvement in the correlations with the addition of an animacy correction.

Whitelock, Denise 1990 ib 2736

Testing a model of common sense understanding of causes of motion;
in Schmidt H. [ed] Proceedings of the ICASE-Seminar on Empirical Research in Science and Mathematics Education
Dortmund

This research reports the testing of a formal causal model of thinking about motion. In order to test a large number and wide age range of subjects (7-16), a matching-pairs paper and pencil task was developed. Subjects were asked to distinguish between examples of nine stereotypical motions by comparing the similarity or difference of causes of pairs to motions. It was then possible to test theoretical predictions of the comparisons against empirical data. The results suggest that responses can be predicted by the model but that there is an improvement in the correlations with the addition of an animacy correction. An independent test was carried out where the animate nature of moving objects was varied systematically and it was found that this feature, previously neglected by the theoretical account, was an important distinction in subjects' consideration of causes of motion.

Zimmer, Robert S. 1989 ib 2821

ODL: Giving learners a map
Milton Keynes: The Open University [IET]

Five OHPs and associated text, forming the backbone of a workshop on a major problem facing people who are learning from text: not feeling free to ask their own questions whenever they have them, and not being able to find answers to them instantly in the text. The problem is re-posed as the absence of maps which provide them with certain kinds of information. A solution in the form of two main kinds of map, with several sub-types, is offered. Component of the IET's Open and Distance Learning course. The Professional Development in Educational Technology Programme.

Zimmer, Robert S. 1990 ib 2642

SMT356 (Electromagnetism): Third-level computer feedback questions -- designed to help students to learn to catch their own misconceptions
Milton Keynes: The Open University

A complete set of third-level feedback questions for Unit 1.of the Open University third level physics course SMT356 (Electromagnetism):

Zimmer, Robert S. 1990 ib 2824

ODL: Simulation of a constructive course-team meeting
Milton Keynes: The Open University [IET]

A series of eight OHPs setting out the main points of the workshop. The simulation uses a combination of the Synectics process for meetings management and the Kolb learning cycle.

Zimmer, Robert S. 1991 ib 2643

Getting The Picture In Special Relativity: Explaining the famous effects without using equations

Milton Keynes: The Open University [IET]

There are several traditional stumbling blocks in coming to understand Einstein's Special Theory of Relativity: the meaning of simultaneity, the relativity of simultaneity, time dilation (moving clocks run slow), length contraction (moving objects shorten), and the traveller who comes back younger than his twin. These famous effects can be difficult to understand in algebraic terms. This monograph shows where they come from in terms of a series of very clear and simple space-time diagrams.

Zimmer, Robert S. 1991 TCC ib 2825

Design of a or : page questionnaire f or high density ,et easy reading

Milton Keynes: The Open University [IET]

The design of a one-page questionnaire is shown which conforms to known principles of visual accessibility. The result is a high information density combined with high probability of response.

Zimmer, Robert S. 1992 ib 2644

Getting The Picture In Special Relativity: excerpts adapted for revision notes for S354 (Understanding Space and Time)

Milton Keynes: Open University

There are several traditional stumbling blocks in coming to understand Einstein's Special Theory of Relativity: the meaning of simultaneity, the relativity of simultaneity, time dilation (moving clocks run slow), length contraction (moving objects shorten), and the traveller who comes back younger than his twin. These famous effects can be difficult to understand in algebraic terms. This monograph shows where they come from in terms of a series of very clear and simple space-time diagrams.

Section B:
Internal papers, memoranda and reports

The criteria for including items in sections A, C and D were fairly easy to establish. In the past the Bibliography had two sections for internal papers, one for research reports, and one for internal papers and memoranda. Inevitably there was uncertainty about where to place many items, which I have have attempted to resolve by merging the two sections, so that all items primarily prepared for internal Open University circulation are listed here in Section B.

Individual members of the Institute have volunteered very different types of papers for entry. Some have over the years submitted many, including very ephemeral items, while others have submitted few or none, although they have prepared important papers of lasting interest. It has not been possible to scan every paper closely enough to establish criteria for admitting some, and excluding others. In the circumstances this Section must be considered the most tentative of the four sections. Copies of the papers should be obtained direct from the authors, as in some cases there is a restriction on the circulation of the paper, where known this is indicated in the entry.

As in the other sections the entries are arranged alphabetically by author, and chronologically where possible within each author's entry. Where known the addressee is listed in the entry, although frequently others received copies of the paper concerned.

Alpay L. 1989 CITE 81 ib 2590

Acquisition of reasoning strategies in medical diagnosis;

This paper addresses the problem of modelling the development of expertise, and its applicability to to "Intelligent Tutoring Systems" [ITS]. In particular, the project reported on is concerned with the design of a user model component of the tutoring system. A new type of user model referred to as "developmental" is being proposed and tested for the medical diagnosis in the domain of back pain. The idea is to model the student's clinical reasoning in terms of her reasoning processes. The concept of developmental models is not new, but no previous attempt has been made to embody this concept within a medical tutoring system.

Alpay L. 1990 CITE 101 ib 2683

Investigating the development of reasoning strategies in medical diagnosis: A report on an empirical study;

This paper reports on an empirical study which examined a number of reasoning strategies applied during the medical diagnostic process, and the development of these strategies from novice to expert clinician. As a result of this study, using simulated diagnosis sessions with subjects ranging from a 3rd year medical student, to an expert consultant in ortho-paedics, evidence emerged of strategies which form a coherent system of reasoning processes. The implications of this for teaching are discussed.

Ashby, Alison 1991 ib 2812

Equal opportunities statistical digest (Students)

FOR INTERNAL USE WITHIN THE OPEN UNIVERSITY ONLY

This digest contains tables of data and graphs showing the region, age, gender, occupation, educational qualifications, ethnic origin and disabilities of O.U. students. It gives data based on 1990 student information and includes some historic data for comparison purposes. There is a companion paper [ib 2813] by the same author, which provides an analysis of the tables of data and graphs contained in this Digest .

Ashby, Alison 1991 SRC 51 ib 2813

Equal opportunities statistical digest (Students) Commentary

FOR INTERNAL USE WITHIN THE OPEN UNIVERSITY ONLY

This document provides an analysis of the tables of data and graphs contained in the statistical digest [ib 2812] by the same author.

Bento, Simon 1990 CITE 115 ib 2686

A Preliminary Investigation of Methods for Evaluating Innovative Computer-Based Learning Systems. Part 1: A Formative Evaluation using a Prescriptive Rating Scale.

Part 1 of a two part report describing the use of a prescriptive rating scale for measuring the perceived pedagogical support given by a micro-world. The rating scale comprises two major categories for assessing whether the prototype provides student orientation and facilitates motivation.

Bento, Simon 1990 CITE 116 ib 2687

A Preliminary Investigation of Methods for Evaluating Innovative Computer-Based Learning Systems. Part 2: Developing Tools for a Formative Evaluation of a Prototype Learning Environment for the Domain of Qualitative Physics.

This is the second of a two part report that discusses a formative evaluation of a microworld for the Physics sub-domain of Newtonian Mechanics. The evaluation assesses childrens' conceptual understanding of force and motion. Three major aspects of interaction between the student, the microworld, and a story script are evaluated. These aspects are human computer interaction, learning transfer, and concept transfer which are collected and interpreted through protocol analysis. The overall findings from this formative evaluation suggest that the use of the friction world prototype is highly favourable, however suggestions are made in the discussion on how the use of the prototype may be improved. Suggestions are also given as to how subsequent evaluations may be refined and improved.

Bento, Simon 1990 CITE 122 ib 2685

A Summative Evaluation: Rating Childrens' Perceptions of a Microworld for the Domain of Newtonian Mechanics.

This report describes the use of a step rating scale administered in a middle school classroom context to assess the perceptions of 26 nine to ten year old children, 13 boys and 13 girls, problem solving with a microworld. The rating scale was devised to assess human computer interaction and the learning perceptions of children. The microworld under investigation was 'Friction microworlds' developed to assist in the teaching of practical Newtonian Mechanics. The rating scale was administered after 14 same sexed dyads had engaged in intensive pedagogical interaction with the microworld. The microworlds' pedagogical effects on the perceptions of the different genders are also assessed. The results of the application of the rating scale strongly indicate that childrens' HCI and perceptions of learning were highly favourable towards using the microworld. The implications of these findings are discussed in the final part of the report.

Bento, Simon 1990 CITE 125 ib 2684

Thinking in colour 'underground'

Over the last several years the use of colour coding in educational software, commercial application packages and complex screen displays has become widespread. However, very few Educational-HCI researchers have investigated the use and effectiveness of colour coding in complex screen displays, commercial application packages, and educational software-on everyday decision making tasks. This report uses a metaphor of a complex colour coded screen display and describes a preliminary investigation of the extent to which colour coding facilitates the identification of relevant information. Subject's response times for identifying London Underground station names were compared. One group of subjects was presented with a colour coded map and another group with a black and white coded map. The results indicate that well organised colour coded displays help facilitate name identification response times, however, a number of extraneous factors have been identified for future investigation. The educational and HCI implications of the use of colour coding are also discussed.

Blandford, Ann 1989 CITE 71 ib 2597

Engineering design education and intelligent tutoring systems.

This review is a discussion on the possibilities of applying artificial intelligence techniques to the teaching of conceptual design. The nature of 'design is considered, as is what constitutes a 'designerly approach' to problems and their solutions, and what skills do designers need. Design education is reviewed as is the present application of computers to support design education and their application to the design process.

Blandford, Ann 1989 CITE 89 ib 2596

Selection between alternatives: computer support for the development of decision making skills.

One educational requirement from the domain of engineering design education is identified and discussed. The requirement is that of of encouraging the development of decision making skills, with particular reference to selection between alternative design concepts. The results of a protocol study in which subjects were asked to make decisions of the type described is reported. These results as well as information taken from the decision making literature, are used as a base for defining the requirements of an "Intelligent Educational System" which can be used to encourage externalisation and reflection on decision processes. The architecture of the proposed system is outlined.

Blandford, Ann 1990 CITE 121 ib 2689

A Model for the generation of tutorial dialogue

This report outlines and justifies an approach to the generation of tutorial dialogues in a domain characterised by justified beliefs and in which a variety of alternative strategies can be employed. The approach chosen is related to previous work on the generation and comprehension of dialogue and discourse. A theoretical model based on a theory of rational agents is described, and the first stages of an implementation of a dialogue component based on this theory are presented.

Burt, Gordon 1991 ib 2559

A sociological approach: Course statistics for third-level social science courses, 1989 and 1990

The course statistics for third-level social science are analysed. In the interpretation particular attention is paid to the links between the students' location in society and their study of the courses. Guiding this interpretation is a conceptual framework which suggests that the courses to some extent reflect the functional differentiation of society. The concepts of cultural capital, transition empowerment and reciprocal empowerment are introduced. These are used to interpret statistics relating to the popularity of courses, the "credit success rate" and also the differential representation of social groups. It is argued that representation on courses reflects the societal structure of power. Some qualifications of these interpretations are necessary. It is suggested that the analysis has implications for policies relating to course choice, attempts to boost course populations, design of courses, arbitrary success rates, and equal opportunities. It is hoped that the study illustrates the value of applying an explicitly sociological approach in the work of the Institute of Educational Technology.

Byrne Colin 1990 ib 2566

Teachers' subject knowledge and teaching strategy. How, in what respects, and to what extent does a teacher's knowledge of a topic contribute to teacher's effectiveness in teaching the topic?

The author used a case study approach to address these questions. seven teachers of varying levels of experience, including novices each taught one 13 year old pupil either elementary trigonometry or areas & volumes for five one hour lessons. Lessons were videotaped, and audio-recorded interviews of the teachers were used to establish the teacher's topic knowledge. The lesson videos and sensitive post tests of pupils achievement were used to assess the effect of the teacher. It was found that teacher knowledge was critical to effective teaching, both in planning and delivery of the lessons. The implications of the findings for in-service training and teacher appraisal are discussed.

Byrne Colin 1991 ib 2743

IET's 'Comprehensive and integrated approach to course design and production': Proposals for the assessment component.

The paper sets out a number of proposals for how IET might draw upon its extensive knowledge, experience and papers to develop various materials and workshops on different aspects of assessment for Open University faculty members. Particular attention is given both to the topics that need to be addressed and to the problem of how to present the same topic to members of different faculty and discipline groups without having to develop many different sets of materials and workshops.

Byrne Colin 1991 ib 2744

A proposal for a computer-based banking system for Open University assessment materials.[Feb]

The paper sets out the rationale and outline specification for a computer-based banking system for Open University assessment materials. Such materials could include CMAs, CMA marking parameters, and item analyses; TMAs, TMA marking notes, schemes, and model answers; projects; examination questions; etc. The proposed system would be user-friendly, suitable for use by most course teams, and operable on a desk top computer - a Macintosh or a PC - with a hard disc, or on the VAX cluster via terminals. It would allow assessment materials to be written, stored, indexed, modified, and retrieved in a variety of ways for inspection or for printing, and would be capable of storing materials in WORD, including graphics, and mathematical and other symbolism.

Byrne Colin 1991 ib 2745

A proposal for a computer-based banking system for Open University assessment materials [revised] [Oct.]

This is a revised version of the February, 1991 proposal. The main difference is that the revised proposal specifies that the system will also be capable of operating with TeXed assessment materials, as well as with materials in WORD. TeX is a typesetting language at present used by the Mathematics Faculty on all of its courses except computing, and by the Physics discipline of the Science Faculty.

Calder Judith 1991 SRC 43 ib 2571

Report on the annual survey of new courses 1990

This is one of an ongoing series, in which students are mailed questionnaires after the completion of their course, in which they are asked questions about their use and degree of satisfaction with each component of the course. The report then compares these with the results of previous years from 1984, and also between courses. Although the survey picks up problems students may be having, it does not identify the cause[s]. Answering the question "why?" would need further detailed investigation.

Chambers E.A. 1990 ib 2739

Beyond Access to 'Equal Outcomes
for the Arts Faculty Conference, Oct. 1990

The notion 'equal outcomes', in the context of debate about access to education, directs attention to students' progress once they are in the system. It recognises that widening access is just a beginning: if students thus admitted are unable to thrive in the system then the 'open door' is in effect a 'revolving door'. Three positions on equal outcomes are discussed and evidence from some Arts Faculty courses is presented, drawing on the OU reports Equal Opportunities: the Report of the Equal Opportunities Team and Equal Opportunities: Statistical Digest

Chambers E.A. & Walsh L. 1990 ib 2741

Report on the A102 Examination Resit Survey
for the Arts Faculty
Staff Tutor's Committee, Dec.

All students who failed the A102 examination in 1988 were surveyed by a questionnaire, containing both coded and open-ended items, following the resit exam in October 1989. 48% of those who failed outright responded, and 59% of those who were offered a resit. Questions concerned when and why the decision to resit/retake or not was made; what help was available to students during 1989, from whom, and what kind of support they would have liked; whether they understood the reasons for their failurein 1988; their views on the timing of the resit; other aspects of their experience of studying A102. Demographic data revealed a disproportionate number of poorly qualified students in the group as a whole, and of women in the group offered a resit but who did not take up the offer. Findings are discussed and summarised, and recommendations for action are made in the light of all the available data.

Crooks Beryl 1990 ib 2585

IET International Course 1990 Week 2 Materials Development Evaluation Report.
to IET International Course Planning team

An evaluation of the second week of the IET International course, held in June 1990, was carried out at the request of the course planning team.The project was designed to both give presenters feedback on their sessions and to make recommendations for improving the course in future. Course presenters were provided with a completed proforma rating their sessions on achievement of aims, appropriateness of content and effectiveness of presentation. Circulation of these proformas was restricted to the individuals concerned and the course planning team, but this report, containing recommendations for the future, is freely available.

Devi, Roshni 1989 CITE 61 ib 2600

Machine learning and tutoring systems.

This paper looks at the problem inherent in an "Intelligent Tutoring System" (ITS) of modelling the learning behaviour of the student. Her interest lies in developing a learning algorithm that can be used in ITS to model the learning of concepts from sub-concepts. The paper reviews examples of current ITS practice, and suggests how learning algorithms can fit into, and improve the system.

Durbridge, Nicola 1991 TCC 70 ib 2570

A214 Developmental feedback

A collection of eight reports recording the small scale but intensive method used to evaluate a beginners course in music. The evaluation covers detailed advice on the style and presentation of particular teaching points and more general/generalisable discussion of students' growing understanding. The latter includes analyses of students' work with audio, video and print as well as of their own practical inputs. The collection also demonstrates the research method.

Durbridge, Nicola 1991 TCC 41 ib 2747

Designing Course Guides
Paper prepared for the Arts Faculty.

It is based on a survey of Arts Faculty Course Guides. It describes the range of content and structure of these documents and makes recommendations for future Course Team reference.. It includes some illustrations of the material discussed.16pp + appendix.

Farnes, Nick 1990 ib 2622

A note on reaching disadvantaged learners - the Open University's experience
to OU Access Working Group,

The Open University has extensive and varied experience in reaching disadvantaged students. Although innovative entry schemes to undergraduate courses began in the mid 1970's, regrettably this experience often remains hidden and there are tendencies to re-invent the wheel. Also the experience of regional staff in using Community Education courses to reach disadvantage learners is not widely known. As most of the projects have been written up elsewhere only brief summaries are given in this paper.

Farnes, Nick 1990 ib 2623

The new Educational Technology?
to SRC Conference

The New Educational Technology advocated in this paper is not intended to replace or make redundant the traditional approach. Traditional educational technology can be subsumed into a wider activity in which educational issues and problems are examined in their social and political context and with reference to the theoretical developments in these disciplines. The New Educational Technology attempts to restore links between theory and practice by proposing a broader approach to practice.

Farnes, Nick 1991 ib 2818

School of Management Production Review.
to the School of Management Production Review Group

The report begins with a summary of the production history and the longer term plans of the School, followed by a review of the main problems and issues reported by staff; two propositions are put forward as to the source of these problems, and this is followed by an analysis of multi-skilled team and production line modes of working; the requirements of the School are listed and discussed in terms of staff autonomy, process flexibility and product variation; and the implications considered. This leads to a proposal for a flexible production system of the type recommended in the Lubbock Report.

Field, Jack 1990 ib 2830

Staff Development for Tutorial & Counselling Staff (TACSt)
to RTS Staff Development Group

This document looks towards further developments in the effectiveness of what in budgetary and perhaps even educational terms is the biggest single item in the University's General Revenue Accounts teaching and regional services. Based on consultations with staff at summer schools and the study of university papers and publications and general Staff Development ideas.the paper ends with a list of 17 recommendations which by helping to improve understanding of tutor and student needs, could improve the effectiveness of both parties to the learning endeavour.

Field, Jack 1990 ib 2831

Effect of a prerequisite on choosing a higher level course: D210 and D345.

Students studying the prerequisite Introduction to Economics [D210] were asked why they chose [31% now and 27% in the future] or avoided [42%] Economics and Government Policy [D345]. They said they chose D345 because of their interest in the subject and because it was a half-credit, and they avoided it because it was only a half credit, it did not fit in with other courses or D210 had put them off economics. Women more than men were put off by the demands of D345, although women obtained higher grades on D210 than men. Twice as many women would have liked to see the economics of welfare services in D345, and twice as many men industrial economics.[7pp].

Field, Jack 1991 ib 2832

Youth & Community Welfare Apprenticeship Scheme: evaluation materials

These are the evaluation materials for a Y & CW Apprenticeship scheme organised in Rochdale and Essex by OU Community Education. By comparing responses to equivalent questions across Workers-in-Training, Learning Managers, Scheme Coordinators and Tutors both formative and summative evaluation purposes would be served. When, after piloting, the finalised materials are received back, they will give a first evaluative impression and yield excerpts for use in action in the scheme itself, as well as in bids, reports, etc. A more systematic evaluation will require the open-ended responses to be formatted and for the responses to the numeric scales to be analysed [28pp].

Field, Jack 1991 ib 2834

Managing Health Services (B782): student responses to course components.

This study of an OBS course for Health Service managers, gave students an opportunity to discuss which of 24 course components, they most fully or least often used, and which they found most, or least helpful. All but 23 of the 185 respondents made their own comments on the course. They were enthusiastic about the self-contained form of the course and its usefulness, particularly the Residential School.When there was any criticism it was about the Set Books, the workload, the way they were recruited, the tuition and particularly the exam.[16pp].

Field, Jack 1991 ib 2835

Components of the OU maths foundation course [M101]

Compared to selected other courses, six components were used less often by M101 students, but they were found as helpful except that M101 software was found less helpful by students of comparable courses. Similarly, four M101 components were used more often and 11 components were found more helpful in M101 than among all or nearly all the other courses. M101 students singled out two out of 22 components they wanted less of. M101 students found the specimen exam more helpful and the final exam fairer than the students of the other courses. Overall, M101 was found more interesting and more difficult and more time-consuming than the other courses [derived from SRC Report No.43, by Judith Calder, IET]. [2pp].

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Field, Jack 1991 ib 2836

Pre-study attitudes to the OU maths foundation course [M101]

New and continuing M101 students [N=469] responded to a self-completion questionnaire before the start of the 1991 academic year asking them about their interest in maths and the preparatory material for M101. They rateed themselves on—Maths Ability -Motivation- What they enjoyed most about their studies.- What they want to get out of studying M101. They were also asked about their use of the Preparatory Package and what parts of the Pack they valued. They were also asked about their effect on their enthusiasm for M101 if there had been a computer requirement. [12pp].

Field, Jack 1991 ib 2837

Student Opinions of M101, pre-Residential School 1991

This study of M101 students prior to attending the residential school [roughly half way through the course] gives detailed coverage of students' opinions on course related issues. The findings show a wide range of findings, moist of which were positive. Among these were that the course components that students expected to benefit from prior to study correlated perfectly with their experiences at this stage of their studies, with their experiences slightly exceeding their expectations. What the majority wanted from Summer School was consolidation of learning, formal lectures, doing maths without any distractions and doing some computing. More students, particularly new students, had plans to study higher level courses than immediately prior to study.

Field, Jack 1991 ib 2838

Differences according to initial standing in maths, age, sex and occupation among New students [prior to study]

In previous studies the author reported on two types of students, new students and continuers. Here the focus is on four types of new students: the four characteristics are; age, sex, occupation and initial standing in maths. The variables reported on are:- Motivations for studying maths; The Preparatory Pack; Initial standing in maths; Induction meetings; and Renting or buying computers. . Students interest in doing post-foundation maths, and the area of mathematics they would be interested in continuing to study were also reported on.

Field, Jack 1991 ib 2839

Managing Health Services (B782): student responses to course components.

This papr discusses student responses too, and use of course components on this course designed for health service managers, in terms of the use made of each component, and how students rated them, in terms of helpfulness and teaching effectiveness. Components included: Residential School, TMAs, Books, tutor contact, Set book, and A/V notes and material. All but 23 of the 185 respondents made their own comments on the course. They were enthusiastic about the self-contained form of the course and its usefulness, particularly the Residential School.When there was any criticism it was about the Set Books, the workload, the way they were recruited, the tuition and particularly the exam.[16pp].

Field, Jack 1991 ib 2840

Comparing student reactions to the course components of Managing Health Services (B782) with other courses.

Some components, although used more than others, were found less helpful than other components used less. How do reactions to B782 components compare with equivalent reactions to components in other courses? For that comparison we present the data in tabular form from 16 undergraduate courses also new in 1990, with respondents split into undergraduates (u/g) and associate students (5293 and 730 respectively). [4pp].

Field, Jack 1991 ib 2841

Students' views of the Open University Maths Foundation Course M101

A random sample of M101 students [899 undergraduates, 70 associates] were asked at the end of their course for any comments about M101; 714 undergraduates and 55 associates responded [75% and 79% respectively].The comments were grouped under 11 headings as below: Assignments [p 2]: Blocks [p4]:Broadcasts [p7]: Computing [p8]: Exam [p10]: Summer School [p13]: Topics [p17]: Tuition [p19]: Units [p21]: Workload [p24]: Remainder [p27]: Each point made by a student was allocated to the most suitable of the headings; having stripped out the points to match the first ten headings the remaining points were put under the 11th heading. Students found M101 very enjoyable, well structured, but they had some reservations, particularly under workload. The full report has verbatim comments listed by type of student [associates, undergraduates] under each of the 11 headings.[30pp].

Hales, Gerald 1991 SRC 39 ib 2455

An evaluation of the Open University/National Federation of Access Centres - Project on Information Technology as an aid to Open University students with disabilities.

This paper reports on a joint project set up between the Open University and the National Federation of Access Centres. It was established to assist Open University students to take advantage of curriculum development, particularly those involving Information Technology.

Harrison, Roger 1989 ib 2584

Report to the honours degree classification group

This is a report on field work carried out in 1987-88 on O.U. honours graduands. The purpose of the study was to find out more about O.U. students, and look for any flaws in the examination and assessment system, and in particular whether the allocation of honours classifications was appropriate.. Files at the University were examined, and the resulting statistics cross tabulated and analysed. Fourteen major variables, and their effect on honours classification and student motivation are discussed.

Hawkridge, David 1990 CITE 100 ib 2705

Rationales and Futures for Computers in African Schools and Universities

This paper examines rationales for introducing computers into schools and universities in African countries and compares these rationales with those being advanced in industrial countries. It is in three parts. The first asks whether developing countries in Africa need computers and why, and supplies some answers. The second looks critically and in detail at the main rationales for putting computers in schools. The third part draws on the experience of several African countries, leading to the two questions: What should happen next regarding computers in African schools and universities? What is going to happen next?

Hawkridge D. &
Chen Cia-Erh 1990 CITE 123 ib 2706

Evaluating a World Bank Project: China's Television Universities.

China recently invested about US$60 million from the World Bank, plus at least as much from its own resources, in expanding and modernising its television universities. How well are these unique institutions serving China's changing needs? Has the World Bank project, now ended, been a success? Our paper is based on the evaluation report prepared by two panels, one Chinese, the other foreign, appointed to advise the State Education Commission. It reveals that the television universities have undertaken a very large construction programme: new and refurbished buildings contain new foreign and Chinese-made equipment. It shows that they have succeeded in increasing the range of courses, enrolling millions of students and producing large numbers of graduates. It discusses the extent to which the teaching quality has been enhanced. It identifies causes of an apparent failure to improve management of the television universities' resources, particularly through providing computers, despite much staff training. Finally, it discusses briefly the future of the television universities in China.

Holland, Simon 1990 CITE 103 ib 2710

Intelligent Computer Aided Instruction in the Arts.

The purpose of this report is to examine how computers could contribute to the teaching of the humanities at the Open University and elsewhere. The report focuses on language and music teaching. The report examines what is available now, and what significant developments are likely in the near future.

Joiner R. 1989 CITE 60 ib 2659

Mechanisms of Cognitive Change in Peer Interaction: A Critical Review.

The author is interested in the design of computer systems that can support learning in a cooperative context. In this paper he takes a first look at the literature on peer interaction, and the work of Chan and Baskin in designing a "computer companion". The aim is to define how children help each other in learning, in order that systems can be designed that support not hinder the natural peer group interaction.

Jones, Ann 1990 CITE 70 ib 2661

Home Computing Evaluation Project. M371 End of Year Report 1988.

This report is one of a series on home computing and reports on the use of the home computer by third level mathematics students (course M371) in 1988. It reports on the following areas: workload and difficulty, gender, access and type of equipment, equipment faults, organisation of practical work, students' future plans, their attitude towards financial outlay, their use of equipment at work and at home and consulting others for advice, when necessary.

Jones, Ann 1990 CITE 110 ib 2711

Report of the use of Home Computing on M353.

This report is one of a series on home computing and reports on the use of the home computer by third level mathematics students (course M353) in 1989. It contains an analysis of data from three different sources: survey data, telephone interviews and student journals. The overall picture of students' use of the home computer in M353 is positive. Most of the students have had a home computer for some time, and its use is therefore well established, and initial problems in setting up the computer have been sorted out.

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Kirkwood, Adrian 1990 ib 2561

Putting the course in context

The process of undertaking evaluation of training materials has led the author to reconsider a number of issues relating to educational evaluation. The course of the title was one in which a large commercial organisation used a centrally produced interactive video-disk, in combination with local workshops to train managers in the implementation of a new staff appraisal and counselling policy. The evaluation was commissioned by the Distance Learning Unit of the Training Department, anxious to learn how the new [video-disk] technology was working on the ground. In attempting to answer three questions: [1] Has the training succeeded in bringing about improvements in managers practice? [2] If it has, in what ways have the mangers changed their behaviour? [3] If they have not changed, why not? The author found that it possible to present evidence on [1] and [2] it was not possible to quantify it, and the evidence on [3] took him deep into the internal corporate culture and politics; and the need to be sensitive the various interest groups within the organisation.

Kirkwood, Adrian 1991 PLUM 12 ib 2557

The move to Radio 5 - students' initial reactions

At the end of August 1990 a new BBC radio service began transmitting on the medium wave band. Radio 5 was created as a to carry programmes mainly concerned with sport and education. Open University programmes previously transmitted on Radio 4 VHF [and some regional VHF services) were transferred to Radio 5 from the outset of the new channel.This paper looks at the reactions to this move among Open University students, during the first few months of transmission.

Kirkwood, A. & Dale E. 1989 CITE 77 ib 2665

Home Computing Evaluation Project. DT200 End of Year Report 1988.

This report contains an analysis of the data from a questionnaire survey of students who took DT200 in its first year of presentation, 1988. Data was collected at the end of the study year and linked to an earlier survey (reported in CITE Report No. 65). This survey covers the acquisition, set-up and use of computing equipment by students, the use of that equipment for practical work in the course (including any difficulties encountered). It also attempted to link students' experiences of the course with their existing computing expertise and attitudes towards computing and electronic communications.

Lockwood, Fred 1991 ib 2526

The rapid production of a low resource, self instructional training package for clinical tutors.

The design , production and presentation of a self instructional training package for a specific medical audience is not unusual. However when this is achieved by authors who had no previous experience of writing self instructional material, which was produced within six and a half months working part time and within a modest budget it is! This paper outlines the project The author goes on to explain and present those techniques designed to involve the learner in active study that formed the content of briefings and training seminars given to the course team, along with other techniques that evolved out during the production of the course.

Mason, Robin 1989 ib 2562

Home Computing Evaluation Project: 1988 Report.

This report covers the first year of the Home Computing Policy [1988] Three courses are analysed: DT200, M205 and M371. Particular attention is focussed on ; students who dropped out, students with little or no previous experience of computers. This report reviews these and other studies by the project, presents the findings, and makes recommendations to improve the working of Home Computing Policy.

Mason, Robin 1990 CITE 129 ib 2612

Computer Conferencing: An Example of Good Practice from DT200 in 1990.

This paper is the third annual evaluation of the use of CoSy on The O.U.Information Technology course, DT200. It includes a summary of previous evaluations and an in depth analysis of conferencing interactions from the 1990 presentation of the course.

Petre, Marion 1991 CAL ib 2565

CALRG Directory of Research 1990-1991

Lists the work and members of the Open University's Computer Assisted Learning Research Group for the years 1990 - 1991. Gives details of research projects and reports.

Scanlon, Eileen 1991 CAL ib 2569

Computer Assisted Learning Research Group Report on 1990

Lists the work and members of the O.U. Computer Assisted Learning Research Group for 1990 .Full details of research projects, reports, papers presented and published. All members of the group are listed, including associate members and research students. [See also ib 2565 "CALRG Directory of Research 1990-1991" for more detail on research publications and projects from the group]

Skyers, Richard 1991 ib 2801

Distance Education and Development in Jamaica: Two Distance Education Systems UWIDITE & JAMAL.
to SRC Conference 23rd Oct.

A Government of Jamaica survey done in 1972 found that half the adult population of the country was illiterate, and this ten years after political independence was achieved. A team was set up to research the problems of illiteracy out of which the Jamaica Movement for the Advancement of Literacy (JAMAL) was established. Another organisation the University of the West Indies Distance Teaching Experiment (UWIDITE) was established ten years later in 1984. This paper looks at why they were set up, and ways in which they could be improved.

Tompkins K & Crooks B. 1988 SRC 17 ib 2573

A review of the extent and pattern of use of video cassettes in the Undergraduate Programme and the Continuing Education area 1988.

This document is a review of the extent and pattern of use of video cassettes in the Undergraduate Programme and the Continuing Education area of the Open University in 1988. It is intended to provide background information for the 1989) review of the OU's policy in respect of broadcasting and the use of audio-visual media in courses. The pattern of use of video-cassette material is compared between the undergraduate programme and the continuing education area. Recommendations are made to encourage the production of video-cassette material in the undergraduate programme.

Tunnicliffe T., Durbridge N., Pearson H. & Chambers E. 1991 TCC 56 ib 2748

Evaluation Report: A205, Culture and Belief in Europe 1450-1600 ,1
to A205 Course Team

A report on the first year of presentation of the Course. A205 The findings and recommendations are based on closed and open-ended Questionnaire data. These sought students' reactions to various features of the course such as its organisation by themes and topics, its treatment of religious and cultural controversies of the period, the mix of media and supplementary materials,and assessment. Changes were made to the course in the light of this report - notably to the examination paper and TMA structure - and students were also provided with additional guidance about preparatory work and the Course structure. 6pp + Appendices 75pp.

Tunnicliffe T., Durbridge N., Pearson H. & Chambers E.A. 1991 TCC 56 ib 2842

Evaluation Report: A205 The Age of Catholic and Protestant Reformations
to A205 Course Team

The report is based on responses to a post-exam postal questionnaire sent to c.900 students at the end of the first year of presentation of the course. It complements work done towards the Report on the Annual Survey of New Courses 1990, [SRC 43]. The questionnaire sought information about students' academic backgrounds and their reactions to: [a] the organisation of the course around themes and topics, [b] the uses of supplementary material, [c] the treatment of religious and cultural controversies in the period, and [d] assessment material. The findings were presented to the course team.

Tunnicliffe T., Durbridge N. & Chambers E.A. 1991 ib 2843

Evaluation Report: A102 An Arts Foundation Course, units 13-15 (Introduction to Philosophy)
to A102 Course Team

The report was prepared for the A102 Course Team, and supplements TCC Paper 46 in which the evaluation of A102 undertaken in 1987/8 is presented. As a result of adverse student feedback in 1987, the second half of the Philosophy block was rewritten. The aim of this questionnaire survey was to discover students' reactions to the revised units 13-15, associated TV and radio programmes and cassette. Broadly, the results of the survey are good, and show that the revised block has been very well received.

Woodley Alan 1991 SRC 42 ib 2529

Access to what? -
A study of mature graduate outcomes

The present government plans to expand higher education over the next decade, in part by encouraging the recruitment of more 'mature' students. This paper looks at the prospects for the mature graduate [over 23] in the job market, as compared to their younger colleagues. While the author finds that the mature graduate appears initially to fare worse, much of this may be explained by subject choice and gender differences in the two groups. He notes that many the mature graduates go into teaching, and compared to the the younger graduate, they tend to change jobs less frequently. The majority also express satisfaction with their new careers, and the experience of degree study.

Zimmer, Robert S. 1989 ib 2638

T235 (Engineering Mechanics: Solids) Unit 4: Front-end analysis and revision for open accessibility
For: T235 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1989 ib 2639

T235 (Engineering Mechanics: Solids) Unit 3: Front-end analysis and revision for open accessibility
to T235 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1989 ib 2640

T235 (Engineering Mechanics: Solids) Unit 10/11: Front-end analysis and revision for open accessibility
to T235 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1989 ib 2641

T235 (Engineering Mechanics: Solids) Unit 14: Follow-up front-end analysis and revision for open accessibility.
to T235 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1989 ib 2820

T235 (Engineering Mechanics: Solids) Unit 7/8: Further front-end analysis and revision for reader accessibility
to T235 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1990 ib 2645

Key questions and people's answers about non-teaching uses of electronic communications in the OU
to IET Working group on non-teaching uses of electronic communications in the OU.

A concise, one-page summary of the kind of questions asked by people in the Open University about the non-teaching use of electronic communications in the OUs operations.

Zimmer, Robert S. 1990 ib 2822

Granting of a BSc by the OU: Synthesis of arguments for and against
to IET Working group on the University diploma and BA degree,

The arguments are brought together from the points of view of the Institute of Educational Technology, the Academic Board, the Student Progress Committee, the Strategic Planning and Resources Committee, the Teaching and Counselling Committee, the Advanced Standing and External Recognition Committee, and the Examinations and Assessment Committee.

Zimmer, Robert S. 1990 ib 2823

T236 (Engineering Mechanics: Fluids): Front-end analysis and revision for open accessibility
to T236 course team.

An example showing how the table of contents, introduction and objectives of a second-level engineering unit can be revised into language which a student can understand before reading the unit itself. These then can function as a guide to the unit, in order to let the student plan his/her own learning strategy.

Zimmer, Robert S. 1991 ib 2646

OM: The S10X summer-school physics lab: the form for evaluation by students - problems and ways to solve them.

Feedback is needed from students about whether they are enjoying the lab and getting the kind of help that they want. The present form aims to provide it, but doesn't: many summer-school tutors consider it destructive. Why? Its eight questions ask the student to project his/her feelings and needs onto the tutor in the form of praise or blame. And only three concern aspects over which the tutor has actual power and hence responsibility. A new form is suggested which lets students own their own feelings and needs, so that their feedback actually can attract and guide the help that they want.

Zimmer, Robert S. 1991 ib 2826

Eight ways to help students to learn -- and which parts of the OU's Institute of Educational Technology correspond to them

A cube of eight different ways of helping students to learn arises from consideration of three simple contrasts: (1) helping students to learn vs. helping authors to help students to learn, (2) helping students to learn under self-direction vs. under teacher-direction, and (3) helping students to learn in general vs. in specific subject areas. A series of eleven OHPs shows how different parts of the OU's Institute of Educational Technology focus specifically on different aspects of this cube.

Zimmer, Robert S. 1991 ib 2827

Faculty attitudes to student desires (Science)
to Teaching and Consultancy Centre, IET

Science students are coming in now with deep questions about science and wholeness, and with a desire to join in a teacher's exploration and wonder rather than to receive lectures. Perhaps with the realisation of falling student numbers, more faculty members will become more interested in responding to these student desires -- enabling students thereby to experience, as Feynman called it, 'the pleasure of finding things out.'

Zimmer, Robert S. 1991 ib 2828

Workshop report: Designing short courses and workshops - G. Gibbs
to Teaching and Consultancy Centre, IET

A series of 15 OHPs forming the backbone of the report. The workshop describes workshop structures which are designed to take the pressure off the facilitator.

Zimmer, Robert S. 1991 ib 2829

RE: The collaborative-learning interface: A community of learners -- and key features to let it grow Series: Contributions to the Renewable Energy pilot course.
to Teaching and Consultancy Centre, IET

The OU is losing its competitive edge in its two major attractions for learners: clarity of presentation, and a sense of belonging in a community of learners. These two are inseparable. The collaborative-learning interface being piloted here represents a potential quantum-leap in the OU's ability to regain its competitive edge. The interface needs three main communicational features if it is to deliver the needed clarity and sense of community. These three features have been well-known for at least twenty years among human-resource managers, but still are largely unknown in ordinary culture.

Section C

Lectures delivered outside the University

Members of the Institute have received invitations to deliver lectures and papers to learned societies and other groups; they have also prepared papers to read at professional meetings of one kind or another. Not all such papers are published afterwards, but they are listed here and are available from the authors. If they were published, they appear in Section A.

The entries are again arranged alphabetically by author, with each author's entries being ordered chronologically as far as possible. For each entry, the body to whom the lecture or talk was given is stated, together with the place and date, where these are known.

Evertsz, Richard 1989 CITE 66 ib 2651

Refining the student's procedural knowledge through abstract interpretations
4th International Conference on Artificial Intelligence and Education

This paper describes an algorithm for generating counter examples, which can be applied to domains with very large search spaces. In such domains it is not feasible to enumerate concrete instances until a counter example is found. This paper describes a program PG which reasons about the abstract computational behaviour of student models expressed as production systems. The paper describes how PG is able to generate concrete counter examples. (CITE 66 title is Two papers on the abstract interpretation of production systems.)

Farnes, Nicholas C. 1990 ib 2624

A distance education contribution to a social strategy to combat poverty: Open University Community Education in Glasgow
Commonwealth Meeting on Distance teaching for non-formal education; Nairobi; Commonwealth Secretariat

This project concerns the use of distance teaching for a non-formal community education programme which is a component of a social strategy to combat poverty. This study shows that the use of distance learning courses in non-formal community education is successful in attracting, at a reasonable cost per student, many who are disadvantaged. Participation leads to improvements in morale, strengthened social networks and taking up opportunities for further education, employment and community activities. In other words it appears that these courses are successful in contributing to the objectives of the social strategy.

Farnes Nicholas C. 1991 ib 2819

Self-financing Distance Education,
to Monash, Deakin and Charles Sturt Universities.

With government pressure on publicly funded education, what are the general principles of generating 'entrepreneurial' income from distance learning courses and packs. What scope is there for repeating the methods and areas of expansion adopted by the U.K.O.U.? These seminars explored the principles, methods and prospects for self-financing distance teaching by drawing on the British experience and relating this to local conditions and opportunities.

Farnes Nicholas C. 1991 ib 2619

Life course analysis and research in distance education.
RIDE Conference, Deakin University.

Courses tend to be seen only in relation to students' educational careers, rarely is a course viewed in the full context of students' lives. Life course analysis enables an examination of the place and influence of a course in students' lives, the interaction between what is happening in their lives and the course itself, and the influence of the course on their subsequent activities. It emphasises the wider sociohistorical context and how opportunities and constraints affect and have affected options and activities over time. The paper reports a practical application of this methodology and begins to develop theory of the life course.

Fung, P., O'Shea, T. & Bly, S. 1989 ib 2395

Electronic mail as a communications catalyst
IEE Colloquium on Human Factors in Electronic Mail: IEE , London.

This paper reports on a comparative study of the use of electronic mail and other communications media. The study was undertaken to establish a point of reference in discussion of existing patterns of work-related communications within comparable research communities and to provide a starting point for assessment of the impact of technology on communications and work patterns in such communities. The findings described, indicate that the new media, rather than replacing older methods has a catalytic effect upon them and that electronic communications provide users with new ways of interacting and collaborating.

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Harry K. & Ismail N. 1991 ib 2798

Information work in distance education: international perspectives.
Fourth Annual Conference of the Asian Association of Open Universities, Sept. Colombo, Sri Lanka

This paper outline the range and types of distance education on which information is potentially available and identify some of the different types of institutions involved in distance education. Some of the major current concerns of distance teaching institutions are briefly examined. They go on to look at who the information users are and what their needs are. Types of primary and secondary information are described. Finally, problems of access are discussed together with some solutions with particular reference being made to the experience of the International Centre for Distance Learning at the Open University in the United Kingdom.

John, Magnus 1991 ib 2613

International cooperation in distance education.
Distance Education Workshop held at the Centre for Educational Technology, University of Zimbabwe, in Harare 9-11 Oct.

This paper addresses some of the general issues of international cooperation prior to discussing how these stand up within the context of distance education. Examples of the types of international cooperation are introduced in order to explain some of the pitfalls associated with it. Extensive discussion is undertaken in the context of international cooperation at the multilateral level to point out how the features of the distance teaching mode can effectively benefit larger units of people, and accelerate development in North-South and South-South collaborative ventures.

Kirkwood, Adrian 1991 PLUM 16 ib 2567

Audio-Visual media and new technologies at the service of distance education.
Conference on 'Audio-Visual Media and New Technologies at the Service of Distance Education' held at the Universidad Nacional de Educación a Distancia (UNED), Madrid, May

Two papers; The Present and the Future of Audio-Visual Production Centres in Distance Universities, and The Demands of an Information-conscious Society on a National Distance Teaching University; have been brought together here. The first paper briefly describes changes in the Open University's use of television and audio materials, which are increasingly being distributed to students on cassette. Although transmission is still the main distribution method for television material, a large proportion of students record course programmes off-air for viewing at a more convenient time. Programmes in recorded form offer students more opportunities to control and interact with the material and thereby improve the depth and quality of their learning. Potentially, the quality of distance education in Europe could be enhanced through greater use of audio-visual materials (adopted, adapted or co-produced), but it would require collaboration between institutions. The second paper discusses the potential of new technologies in distance education to contribute both to the production and dissemination of information and to the development of skills for handling, interpreting and using information. The implications of electronic publishing for the preparation and delivery of distance teaching materials are considered, as are the roles of audio-visual and computer-based materials in helping people make sense of information. The advantages and problems of 'home computing' in the OU context are discussed, including the potential of computer mediated communications to improve dialogue in distance education. [Text also available in Spanish]

Mason, Robin 1991 ib 2611

Developing a Learning Community in Distance Education
The Ohio State University Conference 'Applications of Computer Conferencing to Teacher Education and Human Resource Development', June

This paper outlines the ways in which computer conferencing can be used to foster a sense of community amongst students studying at a distance. It includes a number of case studies: the use of conferencing at the Open University, its use in teacher education, and as a tool in European initiatives for unification.

Mason, Robin 1991 ib 2608

Moderating Educational Computer Conferencing.
DEOS, Distance Education Online Symposium, Oct.

This paper builds on the available literature regarding online tutoring, by applying the principles and advice given there to a particular example of exceptionally good moderating. Using extracts from a conference on management techniques given by the Western Behavioural Sciences Institute, which show these general principles in practice, a model of online teaching is derived and conclusions are drawn about the nature of moderating skills in an educational context. [15 pages]

Moyse, Rodney 1990 CITE 109 ib 2721

Implementing Knowledge Negotiation.
Conference on Advanced Research on Computers and Education; Tokyo, July.

This paper illustrates how an Intelligent Tutoring System, (ITS), may be designed utilising multiple viewpoints on the domain to be tutored. This approach to design is labelled Knowledge Negotiation. The domain is that of Prolog debugging strategies for novices. Novices are presented with bugged solutions to standard novice-level problems, and asked to describe the execution in terms of four models in order to localise the bug. The system is also able to carry out these tasks, and bases its tutoring on these abilities. The viewpoint to be tutored may be chosen in relation to the student's history of learning, goals, or misconceptions.

Petre, Marian 1991 ib 2576

Shifts in reasoning about software and hardware systems: must operational models underpin declarative ones?
Invited paper presented at The Third Workshop of the Psychology of Programming Interest Group (Hatfield, Jan).

Drawing evidence from studies of programmers electronics engineers, the author suggests that operational knowledge underpins our ability to reason declaratively—that a reasonably comprehensive operational model of the underlying 'machine' is necessary to our ability to design systems competently. Expertise and operational models seem at least to be wholly coincident. What distinguishes functional from operational views is, primarily, time (process, change, behaviour). The real world is imperfect, imposing physical and temporal constraints that matter to solution but are not included in the formalism. Hence, we occasionally need to "escape from formalism". The operational model is a way of coping with reality.

Petre M & Green T. 1990 ib 2582

Where to draw the line with text: some claims by logic designers about graphics in notation.
Interact '90.

Is graphical notation really superior to text, or just different? This paper reports observations of professional hardware designers and considers claims they make about graphics and text on a variety of issues: overviews, zooming, aojacency, detail, viscosity, searching, and space consumption. This paper concludes that tne key factor in choosing between graphics and text is the accessibility of information demanded by the user's task.

Zand, Hossein 1991 ib 2800

A Note On the Radicals of Matrix Rings and Polynomial Rings
International Conference on Radicals of Rings, July Szekszard, Hungary.

Suppose s is a radical property in the sense of Kurosh, and let Rn and $R[x]$ denote the ring of n by n matrices and the ring of polynomials over an associative ring R, respectively. In this note, we will present some new results about the radicals of these rings. As Amitsure has recently pointed out, the interconnections between s-radical of Rn and the s-radical of $R[x]$, are not completely known yet. We will discuss new proofs for some of the results of Krempa, Sands, and Amitsure about the connections between the s-radicals of these rings, which show how the solution to some of the open problems about Rn will lead to the solution to some of the open problems about $R[x]$, for certain properties s.

Section D:
Reports to external bodies

Members of the Institute have written reports to external bodies, some in the course of their personal research activities, others as a result of consultancy work engaged in on behalf of the Institute. This section is not a comprehensive list of all such reports, as some are embargoed, at least temporarily at the request of the client. Where reports have been published they appear in Section A. Generally requests for copies should be directed to the body receiving the report, although authors may be prepared to discuss their work with interested parties. As in earlier sections, the entries are listed alphabetically by author and chronologically, as far as possible, within authors. The body to whom the report was made is also named.

Farnes, Nicholas 1989 ib 2616

Information services of the Commonwealth of Learning: A discussion paper
Commonwealth Secretariat

The success of the Commonwealth of Learning information service will depend on it having an active role in producing, delivering and ensuring the use of information. This can be achieved through a dialogue between users and the service, so that users can be helped to articulate their needs and their knowledge in ways that enable the service to adaptively seek out and produce relevant information.

Farnes, Nicholas 1989 ib 2617

Some issues concerning distance teaching for non-formal education.
Commonwealth Secretariat.

This paper begins by considering the definitions of non-formal and distance education and recognises that distance teaching is a subset of non-formal education. It is useful to distinguish between non-formal educational programmes in terms of the proportion of teaching that is provided for learners at a distance compared to face-to-face. Distance teaching can also be provided for planners and practitioners of non-formal education programmes and its introduction at these levels might strengthen the programme. A series of questions are raised to help clarify possible ways forward in collaboration with other organisations.

Farnes N., Jones M., Woodward G. & Carr R. 1989 ib 2618

Report on a mission to assist in the development of a master plan for a Bangladesh Open University
British Council Report No. 3328.

Reports on the final stage of a one year project to assist a Bangladesh Ministry of Education Steering Committee in a feasibility study and preparation of a master plan for an open university. The master plan is in two parts - in part 1 the background, philosophy, structures and methods of an open university for Bangladesh are discussed and a comprehensive overview of the main subsystems is provided. In part 2 this overview is converted into an implementation plan where the scale of activities and the human and physical resources are estimated.

Field Jack G. 1991 ib 2833

ENB for Nursing, Midwifery and Health Visiting: external evaluation of promotion of open learning
English National Board for Nursing, Midwifery and Health Visiting

This is an external evaluation of the Open Learning [OL] Project, a project to promote flexibility in meeting the learning needs of health-care organisations and individuals in the nursing, midwife and health visitor professions. Six activities form the core of the Open Learning [OL] Project, namely a survey, handling enquiries, design of project materials, roadshows, workshops and a teacher programme.

Lockwood F. & Chambers E.A. 1991 ib 2844

Report on the ODA funded visit under the Indira Gandhi National Open University Project; Delhi, India.
The British Council, London

The paper contains observations, discussion and recommendations about the development of instructional organisation in distance education at IGNOU. It is based on intensive discussion with the academic staff of IGNOU who participated in Advanced Workshops on distance learning systems and materials development, presented by the authors over a four-week period (April-May, 1991). The workshops were evaluated, and evaluation reports are included, along with the Workshop programmes, as Appendices to the report.

Mason, Robin 1992 ib 2614

Pan-European Telematics for Distance Education
European Association of
Distance Teaching Universities.

This report was written for the EADTU on the meeting of the Media, Methods and Technology Working Group, along with invited experts, in Amsterdam, February, 1991. The meeting aimed to progress the ideas and issues involved in developing a Pan-European electronic network for distance education.

Mason R. & Blackburn L. 1991 ib 2615

Evaluation of DiSCII at the Open University
to Digital Equipment Company. June

This is a summary of the findings and implications of some joint research by The Open University and Digital in the field of distance management education. The report includes an evaluation of the trial of DiSCII software by students, tutors and central staff at the Open University. [23 pp]

Peberdy Alison 1989 ib 2563

Mental Handicap Patterns For Living: An evaluation of the Open University Course
Health Education Authority
[Research Report 25]

"Mental Handicap Patterns For Living" is a short Open University Course providing training for people involved in the implementation of community care policies. The questions this report sets out to answer are:- [1] Who is using the course? Is the course reaching its intended audience? [2] How are the students using it? [3] How are the groups working? When and how are mixed groups set up? [4] what kind of impact is the course having? How are students knowledge, attitudes, and ways of relating to people changed by the course? In the first year the researcher used a series of face to face interviews and observation of group sessions and coordinator training workshops, to refine the questions. In the second year there were two large scale surveys, one of 350 coordinators and one of 1,700 student pack purchasers and users.

Explanation of the bibliography index system

There are three indexes in the system; The first is the **Number Index:** this is a list of the 'ib' numbers which identify each item, listed in numerical order and showing where the item is to be found by section (A, B, C, D. and page number. This index is the key to locating items and is to be used in conjunction with the Subject Matter index .

The second is the **Author Index,** with all authors listed alphabetically. Under each author's name are the 'ib and page numbers' of the items they wrote. (Items include those of which they are co-authors). Items can be located by noting the 'ib number' then checking its whereabouts in the Bibliography using the Number Index.

The third is the **Subject Matter Index,** this gives the 'ib numbers' under headings indicating the subject matter of the item and the item[s] required can be located by noting the 'ib number' then checking its whereabouts in the Bibliography using the Number Index. Since allocation to different subject matter involves a degree of judgement, if the number of categories was to be kept to a manageable size, this index must be regarded as having a degree of provisionality, and it would be worth checking under any related headings if you are searching for other than specific items. Where an item seems to relate to more than one field, it will also be found entered under that other field(s) to which it relates.

Number Index

This index lists items by their "ib" number, and shows where they are to found in the document. This can be used in conjunction with the other indexes to help locate items in which the reader may be interested.

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The Open University

Open and Distance Learning
1992 Programme
The Institute of Educational Technology
The Open University, UK

The world's leading open/distance learning experts.

IET staff helped set up the Open University, and play an important part in designing and evaluating its high quality text-based courses. We are consultants to government, industry, local education and heath authorities, universities and open learning organisations in many parts of the world.

These short courses are part of the Institute's programme of

'Professional Development in Educational Technology for Open & Distance Learning'

Two Day Workshops

Designing Systems and Materials **2 - 3 June**	An introduction to the major aspects of setting up an Open Learning System and of producing Open Learning materials. This workshop is for trainers, teachers, course developers or writers charged with producing open learning materials
Text Development and Design **25 - 26 March** **24 - 25 June**	The scope and potential of text: writing, designing and producing it for Open Learning Materials. This workshop is for writers, editors, educational technologists and graphic designers who develop learning materials and also for managers & team leaders responsible for the creation, development and production of learning materials.
Advanced Information Technology and Learning **4 - 5 November**	Current practice and development in the use of advanced Information Technology to support learning with individuals and with groups. This workshop is for professionals who are already familiar with basic computer applications in education and training.

One Day Workshops

Improving your Learning Materials **6 May 1 July** **25 November**	An opportunity to reflect on the quality of Open Learning Materials and to work with other practitioners in improving your own materials. This workshop is for trainers, teachers, course developers or writers charged with producing open and distance learning materials

Four Week Course

Distance Learning: Designing Systems and Materials
14 September - 9 October

An intensive four week course in current theory, research and practice in designing, producing and presenting systems and materials for Distance Learning. This course is aimed at anyone involved with Distance Learning systems - as plan-ners, managers, course developers, instructional designers and evaluators or subject specialists. The combination of core sessions and a personal study programme means that everyone benefits.

SEE PAGE 38 FOR ENQUIRY FORM

Use this form to enquire about those courses and workshops you are interested in.

To: Brenda Crouch
Institute of Educational Technology

I am interested in receiving further details of the following courses and/or workshops:

Two Day Workshops		tick here
Designing Systems and Materials 2 - 3 June	2- 3 June	O
Text Development and Design	25 - 26 March	O
	24 - 25 June	O
Advanced Information Technology and Learning 4 - 5 November	4-5 November	O

One Day Workshops		
Improving your Learning Materials	6 May	O
	1 July	O
	25 November	O

Four Week Course		
Distance Learning: Designing Systems and Materials	14 September - 9 October	O

For further details and application forms please write to

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